

HARDWARE FOR PERFORMING AN ARITHMETIC FUNCTION

Abstract of the Disclosure

5 A circuit for performing an arithmetic function on a number performs the function using successive approximation. Each approximation produces an estimate of the result. A determination of the utility of this estimate is made by comparing the inverse function of a given estimate to the number. The current estimate is updated based on this comparison and the inverse function of the
10 current estimate is stored. The next estimate is an incremental change from the previous estimate and there is a corresponding incremental change in the inverse function from the current estimate to the next estimate. Rather than calculating the whole inverse function, which would typically require a multiplier, only the incremental change in the inverse function is provided
15 simply. The incremental change in the inverse function is then added to the inverse function of the current estimate and compared to the number for determining the utility of the next estimate.